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AUTHOR Goodnow, Wilma Elizabeth
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ABSTRACT

In order for researchers to develop principles for successful adult education, they must use both quantitative and qualitative research methods. The first step in developing principles for adult education is to describe education and practices through descriptive research that objectively quantifies and classifies aspects of practice. Through an inductive thought process, outcomes are measured, concepts are defined, and typologies are developed. In theory building, the outcomes and classifications that were defined in descriptive research must be subjectively related. Next, in order to screen out incorrect theories before they are developed into principles for successful adult educational practice, researchers must test their theories through experimental research. Using a deductive thought process, researchers must then codify their theories into principles for successful practice. These four stages of research come to form a cycle when experimental research disproves the practicality of a theory. Thus, both quantitative and qualitative methods of research are necessary for the development of successful adult educational practices; quantitative methods are necessary to test theories for accuracy, and qualitative methods are necessary to interpret the results of quantitative studies so that they may be applied by practitioners. (MN)

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THE CYCLE OF RESEARCH: A CALL FOR TRUCE

Wilma Elizabeth Goodnow

One of the current issues in the field of adult education is the relative merit of quantitative and qualitative research. Quantitative research has been historically respected in academic circles as "true" research whereas qualitative research is a relatively new movement in adult education. Qualitative research came into prominance following Budd Hall's participative research in Africa during the 1970's.[1] The emphasis in qualitative research is on theory building, insight, and subjective analysis while the emphasis in quantitative research is on theory testing, number crunching, and objective analysis. Thus, the two types of research appear to be irreconcilable. The object of this paper is to propose that both quantitative and qualitative research have value and are necessary to achieve the goal of research -- the development of principles for successful adult education practice.

The first step in developing principles is to describe actual adult education practices. This is achieved through descriptive research which objectively quantifies and classifies aspects of practice. Through an inductive thought process, outcomes are measured,

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concepts are defined, and typologies are developed. One of the best known descriptive research studies is Johnstone and Rivera's survey of adult education practice in 1965 titled Volunteers for Learning.[2] is study is typical of descriptive research in that its approach is exploratory and its perspective is macro or "wide-angled". The purpose of descriptive research is to get a "handle on reality" and to set the stage for theory building -- the second stage of the research cycle.

In theory building the outcomes and classifications which were defined in descriptive research are subjectively related. Through qualitative analysis and an inductive thought process, an insightful model of reality is created. If the model has face validity or apparent truthfulness -- a sense of "eureka," the model is considered a theory. But a theory does not "hold water" or gain acceptance as being true if it is disproven through experimental research. For example, Maslow's famous "Theory of Motivation" has neither been disproven or proven, so the theory is generally accepted as true.[3]

Thus, the third step in developing principles for successful adult education practice is testing theory through experimental research. Using a deductive thought process, the accuracy of a theory in explaining reality is tested in a particular situation. For example, Boshier tested Houle's theory that adult education

participants are learning-oriented, goal-oriented, or activity-oriented.[4] As typical in experimental research, the approach was scientific and the perspective was micro or focused. Although both descriptive and experimental research are quantitative and objective, experimental research is more highly respected in academic circles. The goal of experimental research is to play the role of "devil's advocate" in order to screen out incorrect theories before they are developed into principles for successful practice -- the culminating step in the research cycle.

Those theories which are accepted as true are codified into principles for successful practice using a deductive thought process. In contrast to theory building which is also qualitative and subjective, the thrust in the development of principles is pragmatic rather than abstract. The goal is to improve reality rather than to model reality.

One example of a principle which developed through the four steps of the research cycle is the "Contingency Theory of Management."[5] Early research on leadership styles defined the traits of successful leaders and measured the success of various styles of leadership. Conclusions of these descriptive research studies were in conflict -- apparently participative leadership was best in some situations whereas the reverse was true in other situations. Finally, Morse and Lorsch "cut through

the mustard" in a burst of insight which they named the "Contingency Theory of Management." According to this theory the effectiveness of a leadership style is contingent upon the characteristics of the situation. This theory was substantiated by experimental research and has become the overarching principle of management. (The "Contingency Theory of Education" has adapted this principle to teaching methodologies.[6])

The four stages of research connect to form a cycle when experimental research disproves the practicality of a theory. Then reality must be more accurately described and modeled into a theory which will not be disproven by experimental research. Thus, experimental research serves as a door which bars inaccurate theories from acceptance and which sends forth substantiated theories into the field of practice to be developed into principles for success in adult education.

Quantitative research is valuable and necessary for two basic purposes. If experimental research did not test theories for accuracy, inaccurate ones might be developed which led to unsuccessful, rather than successful practice. These inaccurate theories might have originated in a distorted view of reality which could have been clarified through the lens of descriptive research. Moreover, qualitative research is also valuable and necessary for two basic purposes. There can be no experimental research without theories to test and

research cannot be applied to practice without a qualitative interpretation of results into principles for practitioners. Thus, it can be concluded that quantitative and qualitative research are both valuable and necessary. There is no need to take sides but rather proponents of both qualitative and quantitative research should recognize their mutual interdependence and call a truce.

References

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[5]J. J. Morse and J. W. Lorsch, "Beyond theory Y", Harvard Business Review, 48, 3, pp. 61-8.

[6]W. E. Goodnow, "The Contingency Theory of Education," International Journal of Lifelong Education, I (4), 1982, 341-53.

THE RESEARCH CYCLE

Step	Descriptive Research	Theory Building	Experimental Research	Principle Development
Methodology	Quantitative	Qualitative	Quantitative	Qualitative
Analysis	Objective	Subjective	Objective	Subjective
Process	Inductive	Inductive	Deductive	Deductive
Perspective	Macro	Macro	Micro	Micro
Approach	Exploratory	Innovative	Scientific	Pragmatic
Phase 1	Measure reality	Relate outcomes	Apply Theory	Interpret results
Phase 2	Classify outcomes	Develop theory	Measure results	Develop principles
Goal	Describe reality	Model reality	Evaluate theory	Guide practice